Report

Obstacle-avoiding Robot

Case study:

Robot to avoid obstacles based on reading from ultra-sonic sensor if the distance was less or equal to 50 cm the robot will stop otherwise will continue moving.
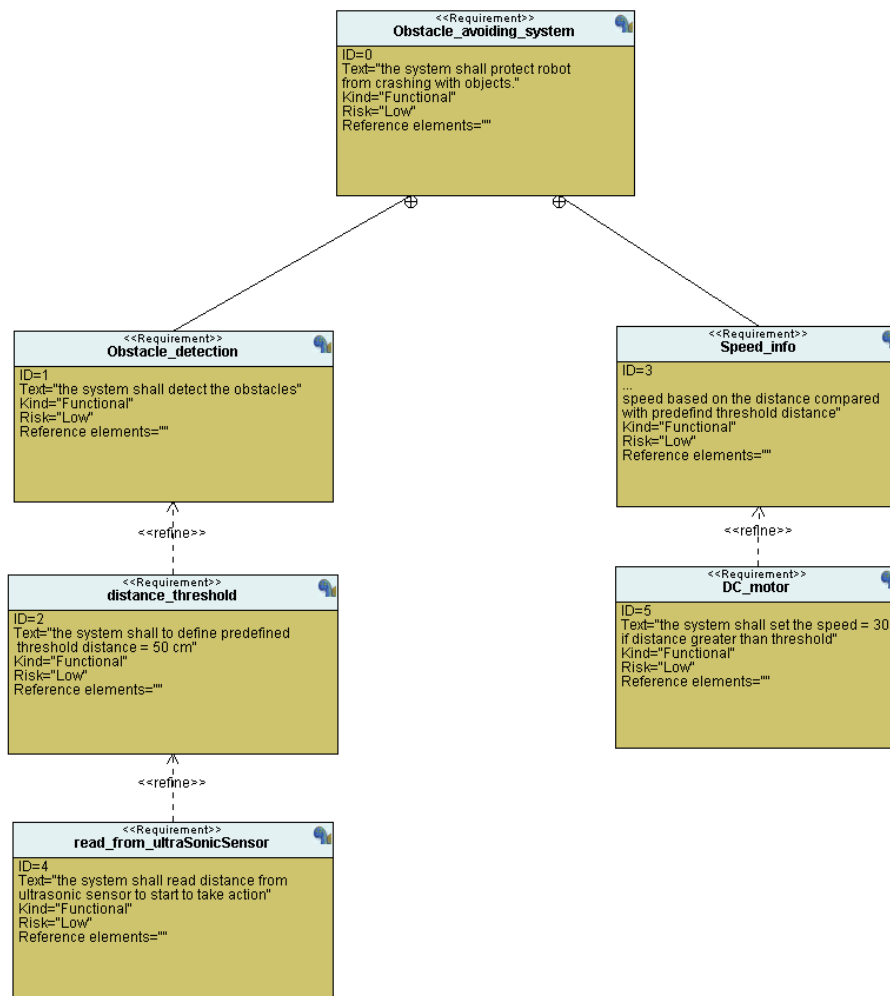
Assumptions:

1. Robot will move in straight line only (not turn right or left).
2. Robot has one dc motor only.
3. Ultrasonic sensor never fails.
4. The maintenance of the system is not modeled.
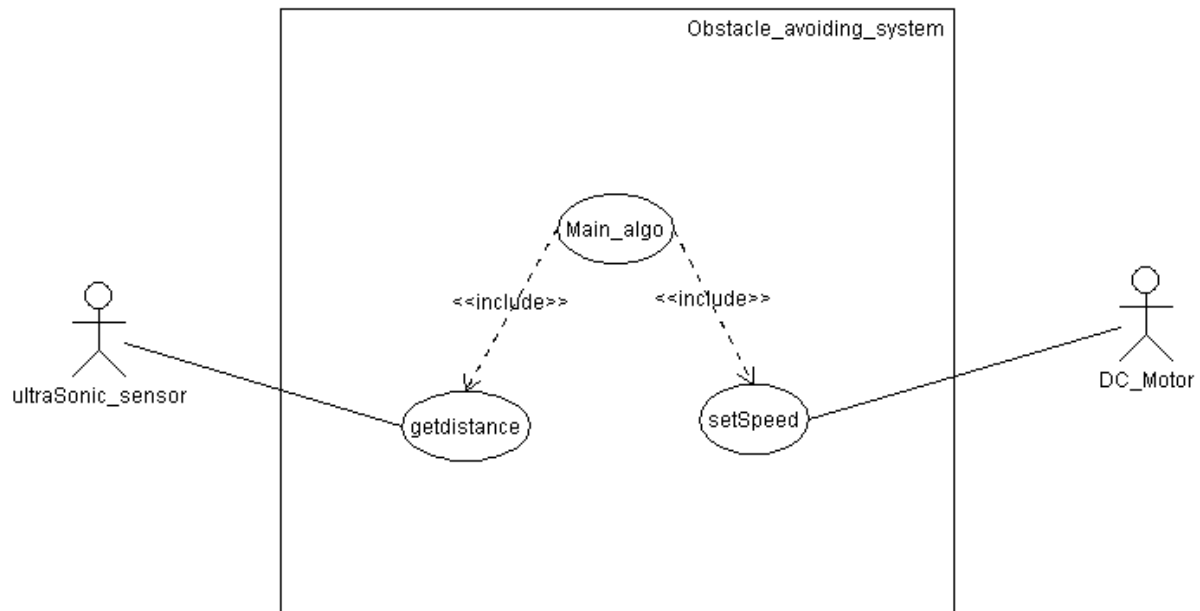
Method used:
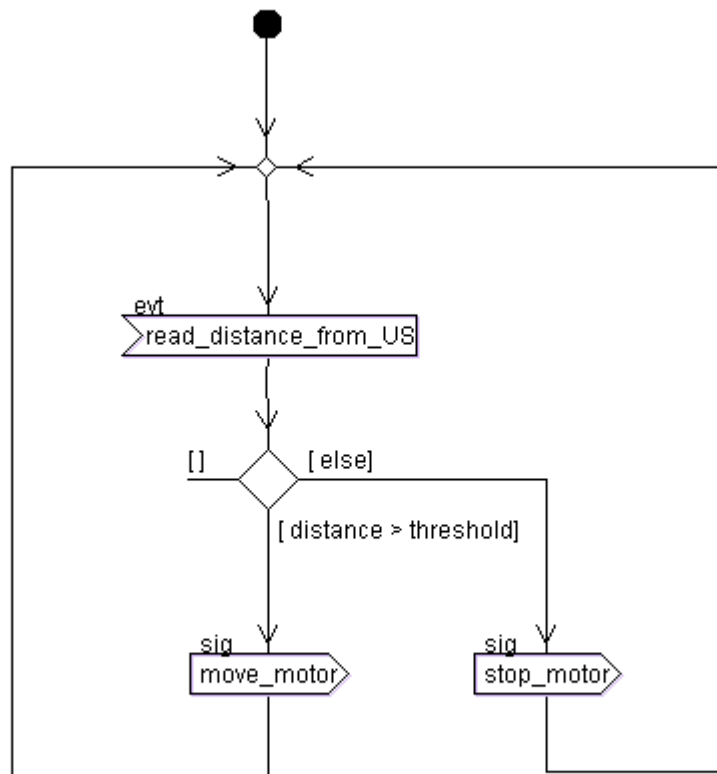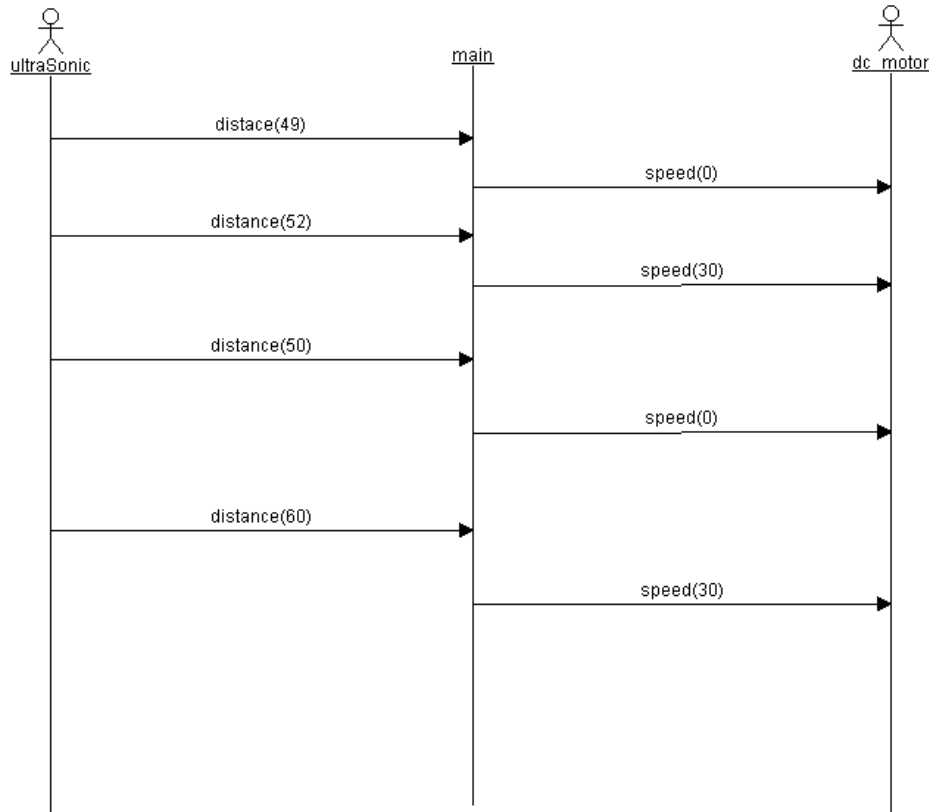
- V-Model SDLC

Requirements:

System Analysis:

- ## Use case
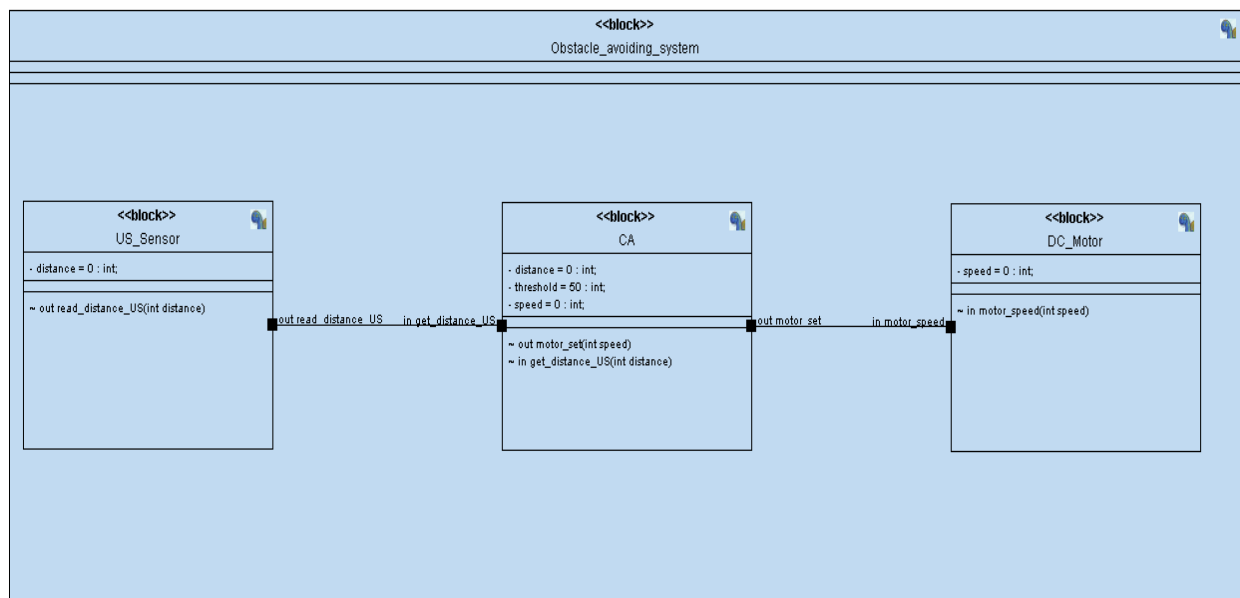

- ## Activity Diagram

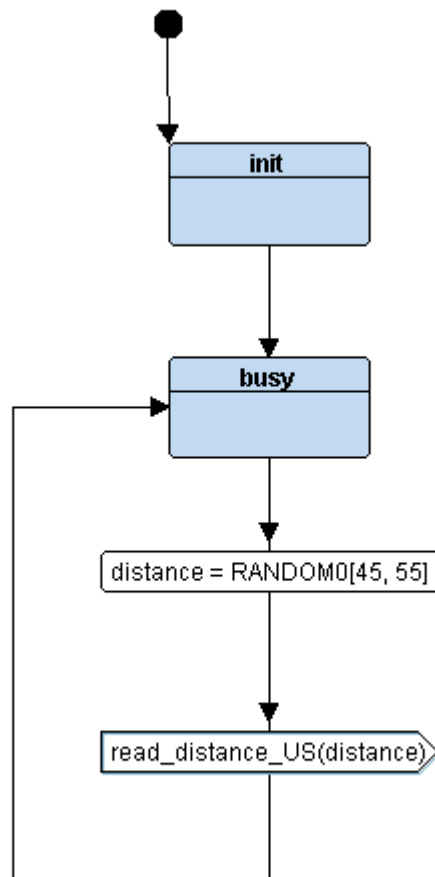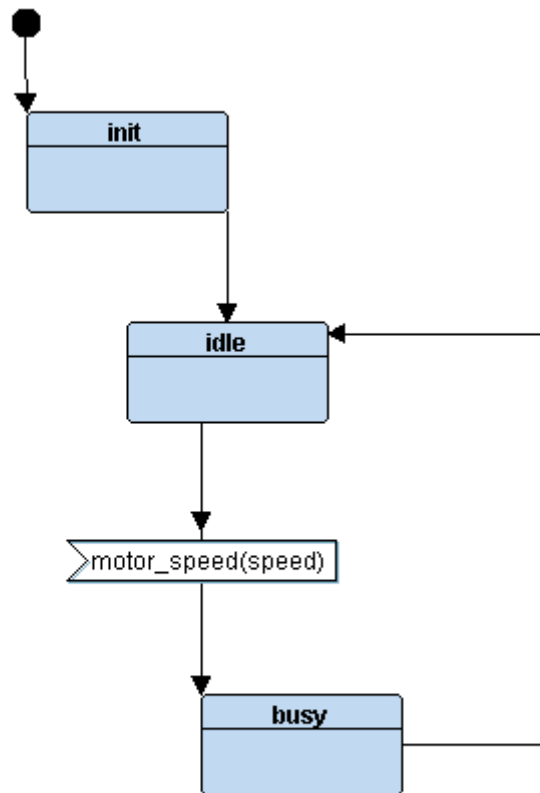- **Sequence diagram example**

System Design:

- **Block Design**

- **Ultrasonic state diagram**

- **DC motor state diagram**

- **CA algorithm state diagram**

waiting

motor_set(speed)

get_distance_US(distance)

[distance <= threshold]
speed = 0

[distance <= threshold]
speed = 0

[distance > threshold]
speed = 30

driving

motor_set(speed)

get_distance_US(distance)

[distance > threshold]
speed = 30